

## DISEASE, SYMPTOMS AND TREATMENT CHART

### How do I know if my fish are sick?

#### Look for these symptoms:

- Fish behaving abnormally:**
- Keeping to the top or bottom of an aquarium
  - Erratic swimming
  - Shimmying / Flashing
  - Poor equilibrium
  - Scratching or scraping on objects
- Changes to fins:**
- Clamped (not "fanned out" as they normally would be)
  - Eroded / Torn
  - Changed colours
- Changes in breathing:**
- Breathing rapidly
- Changes in colour:**
- Abnormal - unusually dark or pale
- Changes in appetite:**
- Loss of appetite
  - Emaciation
- Changes to skin:**
- Skin abnormalities
  - Cotton-like tufts
  - Lesions
  - White spots
  - Excessive mucous
  - Greyish patches
  - Haemorrhages
- Changes to eyes:**
- Eyes appear cloudy
  - "Popeye" or protruding eyes
- Changes to body shape:**
- Swelling or bloating of stomach

### My fish have some of these symptoms.

#### What kind of disease is it?

- Diseases fall into two primary categories:**
- Environmental Disease**
- Caused by poor water quality, poor nutrition, poor housing, poor compatibility, physical damage.
- Pathogenic Disease**
- Caused by specific organism or pathogen.
  - Pathogenic diseases can be caused by a Parasite or a Bacteria.
  - Parasitic Disease can be seen by the naked eye or a microscope.
  - Bacterial Disease can be suspected if water quality is good, and parasites can't be detected.

### Check your water first!

- Poor water quality is the cause of 90% of fish disease!
- Living in unsuitable water leads to stress and environmental disease – and these diseases can look just like parasitic or bacterial disease. Poor water quality also suppresses the fish immune system, reducing their ability to fight off disease.
- Before commencing any treatment – Check your water quality!
- pH: Acid / alkali: Nature of water, pH outside fishes range causes damage to gills/skins.
- Temperature: Fish are cold-blooded - Correct temperature is needed for proper fish function.
- General Hardness: Important for function of fish and maintenance of water salt balance in fish.
- Nitrates: Nitrate readings in your aquarium indicate filters are not working properly.
- Ammonia: Highly toxic waste product of fish.
- Specific Gravity: Used to measure salinity only. (Brackish and Marine aquariums).

### Tips for treatment

- Act early!
- Do not medicate until you have checked your water parameters and eliminated environmental causes.
- Clean the filter and do a 1/3 water change before treatment, as this will improve fish health.
- Remove activated carbon before treating – activated carbon will remove the medication from the water.
- Follow the manufacturer's instructions. If in doubt, consult a veterinarian.

DISEASE NAME	DISEASE ORGANISM	SYMPTOMS	TREATMENT	NOTES
<b>BACTERIAL</b>				
<b>Cottonwool Disease, Columnaris Disease, Mouth Rot, Fin Rot,</b> <b>Primarily Flexibacter columnaris but other bacteria and fungi may also be involved</b>		<ul style="list-style-type: none"> <li>• Initially seen as pale / white patches around the mouth and fins.</li> <li>• As it progresses the mouth and fins develop white cotton wool tufts.</li> <li>• Primary line of infection is whitish/grey with reddened ulcers on the body and frayed fins.</li> <li>• Fish may exhibit abnormal swimming behaviour including 'shimmying'.</li> </ul>	<ul style="list-style-type: none"> <li>• Melafix and aquarium salt can be used in initial stages or any tetracycline, aquarium medication such as: <ul style="list-style-type: none"> <li>• Aquasonic Bio-Tet.</li> <li>• Aristopet – Aquaricycline.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• After 4 days change ½ the water, and repeat treatment if necessary.</li> <li>• Infection spread can be reduced by removing affected fish from tank.</li> <li>• Poor water quality and/or high stocking levels are generally the cause – make sure all parameters are correct.</li> </ul>
<b>Ulcer Disease</b> <i>Aeromonas sp, Pseudomonas sp, Vibrio sp</i> <b>Includes Goldfish Ulcer Disease (GUD) - Aeromonas salmonicida var. nova</b>		<ul style="list-style-type: none"> <li>• Lesions, sores, ulcers, and haemorrhage on the body of the fish.</li> <li>• May also produce swelling of eyes and stomach – along with reddening around the anus.</li> <li>• Fish become lethargic, lose appetite and colour changes are noted.</li> </ul>	<ul style="list-style-type: none"> <li>• Melafix and aquarium salt can be used in initial stages or any tetracycline, aquarium medication such as: <ul style="list-style-type: none"> <li>• Aquasonic Bio-Tet.</li> <li>• Aristopet – Aquaricycline.</li> <li>• Triple sulphur formulations may also be used (example Tri-Sulfa tablets from Aristopet).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• After 4 days change ½ the water, and repeat treatment if necessary.</li> <li>• Infection spread can be reduced by removing affected fish from tank.</li> <li>• Poor water quality and/or high stocking levels are generally the cause – make sure all parameters are correct.</li> </ul>
<b>Dropsy, Fish TB</b> <i>Mycobacterium sp</i>		<ul style="list-style-type: none"> <li>• Swollen stomach, often associated with raised or protruding scales and reddening around anus.</li> <li>• Ulcers may develop on the body.</li> <li>• Fish become lethargic and lose colour.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to treat as the bacteria becomes encased in 'granulomas' inside organs.</li> <li>• Ensure water quality is correct, add aquarium salt to help fish maintain watersalt balance.</li> <li>• Prolonged treatment with antibiotics needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Infection spread can be reduced by removing affected fish from tank.</li> <li>• Often associated with older fish.</li> <li>• Be careful when handling affected fish, as it can infect open wounds on humans – 'Fish Fancier Warts'.</li> <li>• Affected fish should not be fed to other fish.</li> </ul>
<b>Pop-Eye or Exophthalmia</b> <b>Variety of causes including bacterial, viral, parasite, environmental</b>		<ul style="list-style-type: none"> <li>• The eyes protrude from the head more than normal.</li> <li>NB: Some goldfish such as Blackmoors and Telescopes are specifically bred for this appearance.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure water quality is correct, add aquarium salt and: <ul style="list-style-type: none"> <li>• Aquasonic Bio-Tet.</li> <li>• Aristopet – Aquaricycline.</li> <li>• Triple sulphur formulations may also be used (example Tri-Sulfa tablets from Aristopet).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• May occur from time to time in individual specimens and go away.</li> <li>• If it starts occurring in a number of fish suspect water quality and/or pathogenic disease.</li> </ul>
<b>PARASITES – EXTERNAL</b>				
<b>White Spot or "Ich"</b> <i>Ichthyophthirius multifiliis</i>		<ul style="list-style-type: none"> <li>• Early stage is hard to detect.</li> <li>• When mature can be seen as small white dots on the skin and fins up to 1mm diameter.</li> <li>• Fish will flash or scrape against surfaces.</li> <li>• Rapid breathing action.</li> <li>• Without prompt treatment high losses can occur.</li> </ul>	<ul style="list-style-type: none"> <li>• There are a multitude of medications that can be used including: <ul style="list-style-type: none"> <li>• Aquasonic – Ichonex.</li> <li>• Aristopet - Rapid White Spot Remedy or Multicure.</li> <li>• Seachem – Cupramine.</li> </ul> </li> <li>• Secondary bacterial infections are common so additional treatment with antibiotics may be needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Higher temperature approx 28°C speeds up cure time due to shortened life cycle time.</li> <li>• Treatments attack the free swimming stage of the life cycle, not the mature 'white spot' – it may take several days for white spots to disappear under treatment.</li> <li>• Avoid copper if invertebrates such as yabbies and snails are present in the aquarium.</li> </ul>
<b>Velvet Disease</b> <i>Oodinium sp</i>		<ul style="list-style-type: none"> <li>• Will appear as a yellow to grey or dusty gold appearance on the skin and fins.</li> <li>• Fish appear listless, clamp fins and may scrape or flash against surfaces.</li> <li>• Skin may peel away in strips with heavy infections.</li> <li>• Can also infect the gills where it may not be visible to the naked eye.</li> </ul>	<ul style="list-style-type: none"> <li>• A copper based treatment is best such as: <ul style="list-style-type: none"> <li>• Aquasonic – Ichonex.</li> <li>• Seachem – Cupramine.</li> <li>• Also try Multicure or other broad spectrum parasite treatments.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Copper can be toxic in soft / acid water.</li> <li>• Ensuring pH is neutral or above and adding aquarium salt can also help avoid toxicity problems.</li> <li>• Avoid copper if invertebrates such as yabbies and snails are present in the aquarium.</li> <li>• Raising temperature also speeds up treatment due to shortened life cycle.</li> </ul>
<b>Anchor Worm</b> <i>Lernaea sp</i>		<ul style="list-style-type: none"> <li>• Presence of elongated 'worms' with 2 trailing egg sacs seemingly attached to the skin about 5 to 10mm long.</li> <li>• Raised ulcer may also be present due to damage of skin through attachment.</li> </ul>	<ul style="list-style-type: none"> <li>• The best treatment is use of insecticides which also kills juvenile stages with products such as: <ul style="list-style-type: none"> <li>• Aquasonic – Paragone.</li> <li>• Aristopet – Paracide.</li> </ul> </li> <li>• The adult 'worm' can be physically removed using tweezers – NB this can lead to 'chunks' of flesh also being pulled away so be careful.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow manufacturer's instructions.</li> <li>• In very cold water anchor worms may stay dormant within goldfish for months.</li> <li>• Secondary bacterial infections can also occur where skin has been damaged – if suspected treat with Melafix or an antibiotic</li> </ul>
<b>Fish Lice</b> <i>Argulus sp, Gill Maggots Ergasilus sp</i>		<ul style="list-style-type: none"> <li>• Presence of round to oval, flat disc-like parasite, approximate 10mm, diameter.</li> <li>• Transparent grey/green colour.</li> <li>• Can cause round red sores or lesions on the skin of affected fish.</li> <li>• Fish flash and swim erratically.</li> </ul>	<ul style="list-style-type: none"> <li>• The best treatment is use of insecticides which also kills juvenile stages with products such as: <ul style="list-style-type: none"> <li>• Aquasonic – Paragone.</li> <li>• Aristopet – Paracide.</li> <li>• Lice can also be physically removed using tweezers.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Follow manufacturer's instructions.</li> <li>• Secondary bacterial infections can also occur where skin has been damaged – if suspected treat with Melafix or an antibiotic.</li> <li>• Most common in Goldfish or pond raised fish.</li> </ul>
<b>Gill Flukes</b> <i>Dactylogyrus sp</i>		<ul style="list-style-type: none"> <li>• Affect gills and skin.</li> <li>• Fish have dull appearance or are lethargic, clamped fins, scraping, reduced activity, increased breathing frequency.</li> <li>• Easily confirmed with use of microscope.</li> </ul>	<ul style="list-style-type: none"> <li>• Use Para-gone or any commercial fluke cure.</li> <li>• Addition of aquarium salt is also beneficial.</li> </ul>	<ul style="list-style-type: none"> <li>• A strong salt bath can also be used.</li> </ul>
<b>Skin Flukes</b> <i>Gyrodactylus sp</i>		<ul style="list-style-type: none"> <li>• Grey or white slime or excess mucous present on skin or fins.</li> <li>• Fins may be clamped or become frayed and eroded.</li> <li>• Fish may start to scrape and flash and show abnormal swimming activity.</li> <li>• Increased breathing frequency.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a broad spectrum treatment such as Multicure or Rapid Whitespot Remedy from Aristopet.</li> <li>• Addition of aquarium salt is also beneficial.</li> </ul>	<ul style="list-style-type: none"> <li>• Addition of 1 to 2 teaspoons aquarium salt per 10 litres during treatment may help speed up treatment and recovery of fish.</li> <li>• After fish have recovered carry out 1/3 water change every day for 3 to 4 days to dilute medication.</li> <li>• Secondary bacterial infections can occur so treat with Melafix or an antibiotic.</li> </ul>
<b>Slimy Skin Disease</b> <i>Chilodactylus sp, Trichodina sp, Costia sp</i> <b>Skin Flukes may also be present</b>		<ul style="list-style-type: none"> <li>• Grey or white slime or excess mucous present on skin or fins.</li> <li>• Fins may be clamped or become frayed and eroded.</li> <li>• Fish may start to scrape and flash and show abnormal swimming activity.</li> <li>• Increased breathing frequency.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a broad spectrum treatment such as Multicure or Rapid Whitespot Remedy from Aristopet.</li> <li>• Addition of aquarium salt is also beneficial.</li> </ul>	<ul style="list-style-type: none"> <li>• Addition of 1 to 2 teaspoons aquarium salt per 10 litres during treatment may help speed up treatment and recovery of fish.</li> <li>• After fish have recovered carry out 1/3 water change every day for 3 to 4 days to dilute medication.</li> <li>• Secondary bacterial infections can occur so treat with Melafix or an antibiotic.</li> </ul>
<b>Hexamita</b>		<ul style="list-style-type: none"> <li>• Affects the gut, sometimes associated with Hole in the Head where skin breaks down around the head.</li> <li>• Fish will also have white faeces and reduce feeding.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure water quality and nutrition are correct.</li> <li>• Addition of vitamin B&amp;C to water or diet may also assist.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires Veterinary treatment.</li> </ul>
<b>PARASITES - INTERNAL</b>				
<b>Tapeworms and Roundworms</b> <i>Bothriocephalus acheilognathi</i>  <i>Camallanus sp, Capillaria sp</i>		<ul style="list-style-type: none"> <li>• Difficult to diagnose until in later or heavy stages of infection.</li> <li>• Thin round, red worms protruding slightly from the anus or evident in faeces.</li> <li>• Feeding reduced or stops and fish may become emaciated.</li> <li>• Alternatively the stomach may be swollen and fish will produce white stringy faeces.</li> </ul>	<ul style="list-style-type: none"> <li>• A treatment such as Aristopet Fluke and Tapeworm Tablet can be used.</li> </ul>	<ul style="list-style-type: none"> <li>• Treatment should be repeated in 3-4 weeks.</li> <li>• More of a problem in wild caught fish than tank raised fish.</li> </ul>
<b>FUNGUS</b>				
<b>Various species including</b> <i>Sarptrolegnia sp</i>		<ul style="list-style-type: none"> <li>• Tufts of fungus, resembling dirty white cotton wool, grow on the outside of the fish.</li> <li>• Often prevalent where skin or fins have been physically damaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Normally easily treated by ensuring water quality is good and using products such as: <ul style="list-style-type: none"> <li>• Aquasonic – Fungonex.</li> <li>• Aristopet – Fungus Cure.</li> <li>• API – Pimafix ½ to 1 cup Aquarium salt per 100 litres of water.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Healthy and undamaged fish do not become infected with fungus.</li> <li>• Be careful when handling fish as this can cause scale loss and skin damage which can become infected.</li> <li>• Can be associated with poor water quality and low temperatures.</li> </ul>
<b>VIRUSES</b>				
<b>Lymphocystis</b>		<ul style="list-style-type: none"> <li>• Causes cauliflower like growths on skin or fins that increase in size over time.</li> </ul>	<ul style="list-style-type: none"> <li>• This is a virus and there is no treatment.</li> <li>• Growths can be physically removed.</li> </ul>	<ul style="list-style-type: none"> <li>• Remove infected fish to prevent infection spreading to other fish.</li> <li>• Generally does not cause high mortality, looks bad and affects fish mobility and feeding.</li> </ul>
<b>MARINE PARASITES</b>				
<b>Marine White Spot</b> <i>Cryptocaryon irritans</i>		<ul style="list-style-type: none"> <li>• Pin head size white spots appear on fish, reduced activity and scraping.</li> </ul>	<ul style="list-style-type: none"> <li>• Use Aquasonic Odonex or Vertonex.</li> <li>• Any commercial marine white spot treatment.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow manufacturer's instructions.</li> <li>• Avoid copper if invertebrates such as shrimp and corals are present in the aquarium.</li> </ul>
<b>Marine Velvet</b> <i>Oodinium ocellatum</i>		<ul style="list-style-type: none"> <li>• Dust-like parasites cover fish; scraping, increased breathing, reduced activity.</li> </ul>	<ul style="list-style-type: none"> <li>• Use Aquasonic Odonex.</li> <li>• Any commercial velvet treatment.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow manufacturer's instructions.</li> <li>• Avoid copper if invertebrates such as shrimp and corals are present in the aquarium.</li> </ul>